

JUN 05 2006

AVAGO TECHNOLOGIES, LTD.
P.O. Box 1920
Denver, Colorado 80201-1920

ATTORNEY DOCKET NO. 70020717-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Chee

Serial No.: 10/667,078

Examiner: Huffman, Julian

Filing Date: September 18, 2003

Group Art Unit: 2853

Title: Print Mechanism Utilizing an Optical Imaging Sensor to Sense the Print Medium

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria VA 22313-1450

TRANSMITTAL OF REPLY BRIEF

Sir:

Transmitted herewith is the Reply Brief with respect to the Examiner's Answer mailed on 4/06/2006. This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new grounds of rejection.)

No fee is required for filing of this Reply Brief.

If any fees are required please charge Deposit Account 50-3718.

Respectfully submitted,

☐ I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

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OR

☒ I hereby certify that this paper is being facsimile transmitted to the Commissioner for Patents on the date shown below.

Date of Facsimile: June 5, 2006

Typed Name: Calvin Ward

Signature: 

Chee

By


Calvin B. Ward
Attorney/Agent for Applicant(s)

Reg. No. 30,896

Date: June 5, 2006

Telephone No. (925) 855-0413

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While Applicant disagrees with the Examiner's interpretation of the law on this matter, the Examiner's position still does not support the rejection for anticipation of these

claims. The only examples of the image and imaging devices specifically discussed in the specification are as follows:

The present invention assumes that the portion of the print mechanism exposed next to the edge of the paper has a significantly different reflectivity than that of the paper. For example, the paper is fed over a roller in some inkjet printers, and hence, the position detector views the surface of the roller in those regions of the roller that are not covered by the paper. For the purpose of the present discussion, it will be assumed that the area next to the paper is substantially darker than the paper. **The image generated by the position detector is preferably a plurality of pixel values organized as a plurality of rows that run in the direction of travel of the print head. Hence, each horizontal line in the image in the vicinity of the edge of the paper will be a "step" function that is white over the paper and dark over the print carriage.** Algorithms for detecting the point at which the image transitions between a dark and a light region are known to the art, and hence, will not be discussed in detail here. For the purposes of the present discussion, it is sufficient to note that a threshold can be defined that distinguishes the paper from the underlying paper carriage mechanism. Portions of the image having a brightness greater than this threshold are assumed to be over the paper, and portions of the image having a brightness less than or equal to this threshold are assumed to be over the print carriage. (page 4, starting at line 6 of the specification)

The above-described embodiments of the present invention utilize a two-dimensional image sensor in the position detector. The two-dimensional image sensor described above is preferred since such sensors are mass-produced for use in optical mouse pointing devices, and hence, are available at a cost that is compatible with low cost inkjet printers. However, embodiments that utilize one-dimensional sensors can also be practiced. The detection of the vertical edges of the paper can be accomplished with a **one-dimensional image sensor comprising a single row from the image sensor described above.** Similarly, the detection of the top and bottom edges of the paper can be accomplished with a **one-dimensional image sensor comprising a single column from the image sensor described above.** (page 6, starting at line 16 of the specification)

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The Examiner then looks to the statement in the first paragraph that the image in the region of the edge is a step function, as defining the broadest interpretation of what is meant

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With respect to Claims 2 and 8, the Examiner looks to the teaching of Endo in which the presence or absence of the paper is determined by detecting the intensity of light reflected from the paper and comparing that to a predetermined threshold value as satisfying the limitation of determining a brightness value for the print medium. The Examiner cites the above mentioned paragraph [127] of Endo for support. As noted above, the passage refers to comparing the signal with a predetermined threshold that is not derived from the signal of the print medium when the detector is over the print medium. That signal depends on factors other than the brightness of the paper. Hence, absent further processing, the system of Endo does not determine a brightness value.

With respect to the rejection of Claim 10 in view of Endo and Wen, the Examiner now states that the rejection under 103 merely states that it would be obvious to use the sensor of Endo to determine the length and width of the print medium. In effect, the Examiner is now making a new rejection based on Endo alone. But, as noted above, Endo does not teach forming an image and making determinations from that image. Hence, even this new ground for rejection is flawed.

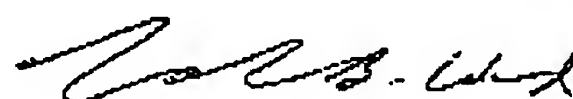
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I hereby certify that this paper (along with any others attached hereto) is being sent in triplicate via facsimile to fax number: 571-273-8300.

Respectfully Submitted,



Calvin B. Ward
Registration No. 30,896
Date: June 5, 2006

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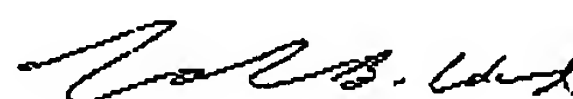
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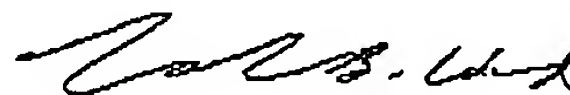
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